Status Report from the USLCSG

By Jonathan Dorfan

HEPAP Meeting at Cornell University

August 5th, 2002


U.S.
Steering Group
Asian
Steering Group
European
Steering Group
Govt.
Agencies
Govt.
Agencies
Govt.
Agencies
International Steering / Oversight Group
Steers towards
International Organization / Laboratory
Charged with Constructing LC
Global Goal
? 2005

European Linear Collider Steering Group (ELCSG)

- **Membership:** **Brian Foster (Chair)**
- **Luciano Maiani**
- **Albrecht Wagner**
- **David Miller**
- **Sergio Bertolucci**
- **Francois Richard**

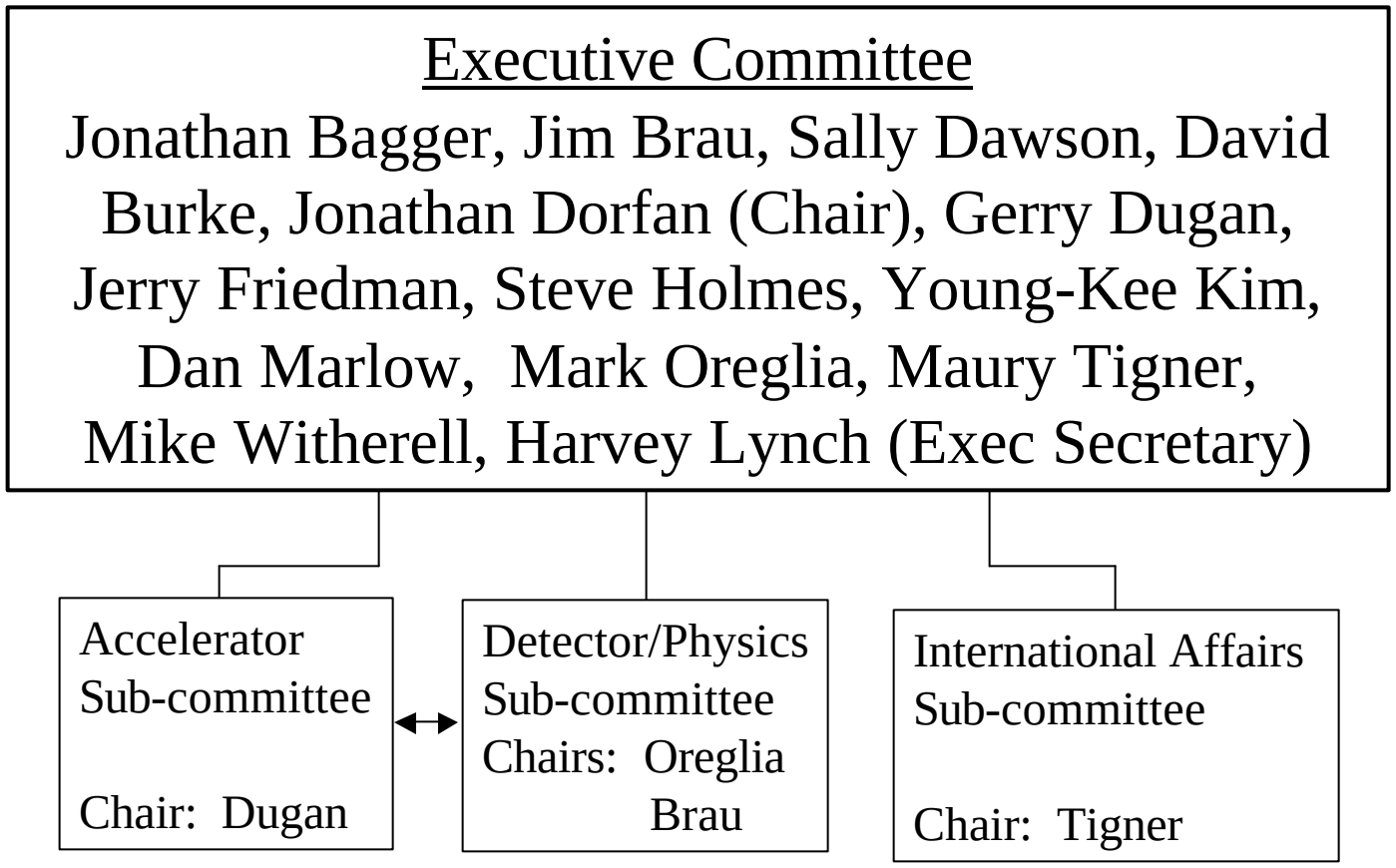
- **Has met three times. Will form sub-committees in areas of: outreach, technical issues, Administration and Global Accelerator Network**
- **There has been considerable and substantive discussions between USLCSG and ELCSG**
- **Asian community will soon establish their regional committee**

US Linear Collider Steering Group

Charter:

- **The U.S. Linear Collider Steering Group leads universities and national laboratories working toward U.S. participation in an international high-energy, high-luminosity, electron-positron linear collider wherever it is built and preparing elements of a bid to host the project in the U.S. The establishment of such a body was recommended by the HEPAP Subpanel on Long Range Planning.**
- **While the functions of the Steering Group are expected to evolve with time, the initial U.S. Linear Collider Steering Group will:**
  - **Prepare, communicate, and begin to implement a road map for defining, internationalizing, funding, and carrying out a linear collider project**
  - **Work with potential high-energy physics international partners and with governmental agencies, including equivalent groups in other regions of the world and the International Linear Collider Steering Group, to define a linear collider project**
  - **Provide an evaluation of options for building the linear collider involving factors such as scientific requirements, technical feasibility, risk, cost, initial facility parameters, upgradability of alternate technologies, and the implications of different sites**
  - **Prepare the elements of a U.S. bid to host the linear collider**
  - **Coordinate and propose U.S. accelerator research and development for a linear collider**
  - **Coordinate and propose U.S. research and development on physics and detectors for experiments to be carried out at a linear collider**

US Linear Collider Steering Group



USLCSG — First Meetings

- **USLCSG has met twice — at FNAL on May 30, 2002 and at U.C. Santa Cruz on June 29, 2002**
- **Next meeting is August 8, 2002**
- **Sub-committee Chairs and charges have been established**
- **USLCSG will use Outreach and Communication Group to do relevant homework. Jonathan Bagger and Sally Dawson provide the overlap**
- **Jonathan Dorfan, Jonathan Bagger and Fred Gilman met with Ray Orbach, Jim Decker, Peter Rosen and other Office of Science Staff on July 2, 2002. Very productive meeting.**

Charge for the Accelerator Subcommittee (1)

1. **Support preparation of a "road map" for an international linear collider project;**

2. **Within the context of the world-wide linear collider effort, identify, prioritize and coordinate the elements of a U.S. strategy for the accelerator R&D needed to establish readiness of linear collider technologies and completion of a conceptual design;**

3. **Propose and co-ordinate linear collider evaluations with other national and international organizations;**

4. **Support preparation of a U.S. bid to host the linear collider;**

Charge for the Accelerator Subcommittee (2)

5. **Promote and facilitate participation of particle physicists in accelerator R&D;**

6. **Collaborate with the Physics and Detector Sub-committee, particularly to develop scientific requirements and operating scenarios for the collider, and to co-ordinate development of the machine-detector interface.**

Charge for the Physics Group (1)

- **The American Linear Collider Physics Group (ALCPG) has been created to establish and manage a process that leads to a forefront experimental program at a high-energy electron-positron linear collider (LC). To be successful, this process must demonstrate that such a physics program can, with a high level of confidence, be carried out within a reasonable time frame and within a reasonable budget. Given the strong international interest in this physics, the ALCPG's role should be understood as the North American part of a larger global effort. The ALCPG should maintain strong ties to other groups with similar goals around the world**

Charge for the Physics Group (2)

- **The ALCPG has several main tasks, all of which will be performed in the working groups (WGs).**

  1. **Describe the essential elements of an LC physics program. Pick a representative set of critical physics measurements for detailed study and full simulation**

  2. **Coordinate the efforts of the WGs to establish a comprehensive set of detector and accelerator requirements to carry out the critical physics measurements. Maintain close collaboration between the working groups focusing on physics issues, the detector design, the detector/accelerator interface, and the accelerator community**

Charge for the Physics Group (3)

3. **Evaluate a range of detector options. Document tradeoffs in performance and cost. Produce a design for at least one detector that can carry out the program of critical physics measurements.**

4. **Help to formulate a process by which R&D proposals can be evaluated**

5. **Establish a documentation system**

6. **Establish a set of milestones and a schedule. Plan a regular set of meetings for presenting results and for improving cooperation**

7. **Encourage and facilitate the participation of interested groups in the process of planning the experimental program.**

Charge for the Physics Group (4)

- **Deliverables and milestones**

  1. **Definition of the Physics Program**
  2. **Detector requirements document**
  3. **Detector design and performance document**

Charge for International Subcommittee (1)

- **DRAFT*DRAFT*DRAFT**

1. **Collect and elaborate possible models for international realization of a linear collider on US soil, coordinating with potential international partners.**
2. **Act as liaison with the ILCSC on**
   - **facility parameters**
   - **outreach**
   - **organizational vehicle for realization**
   - **scenarios for technology choice**
   - **R/D coordination / information**

Charge for International Subcommittee (2)

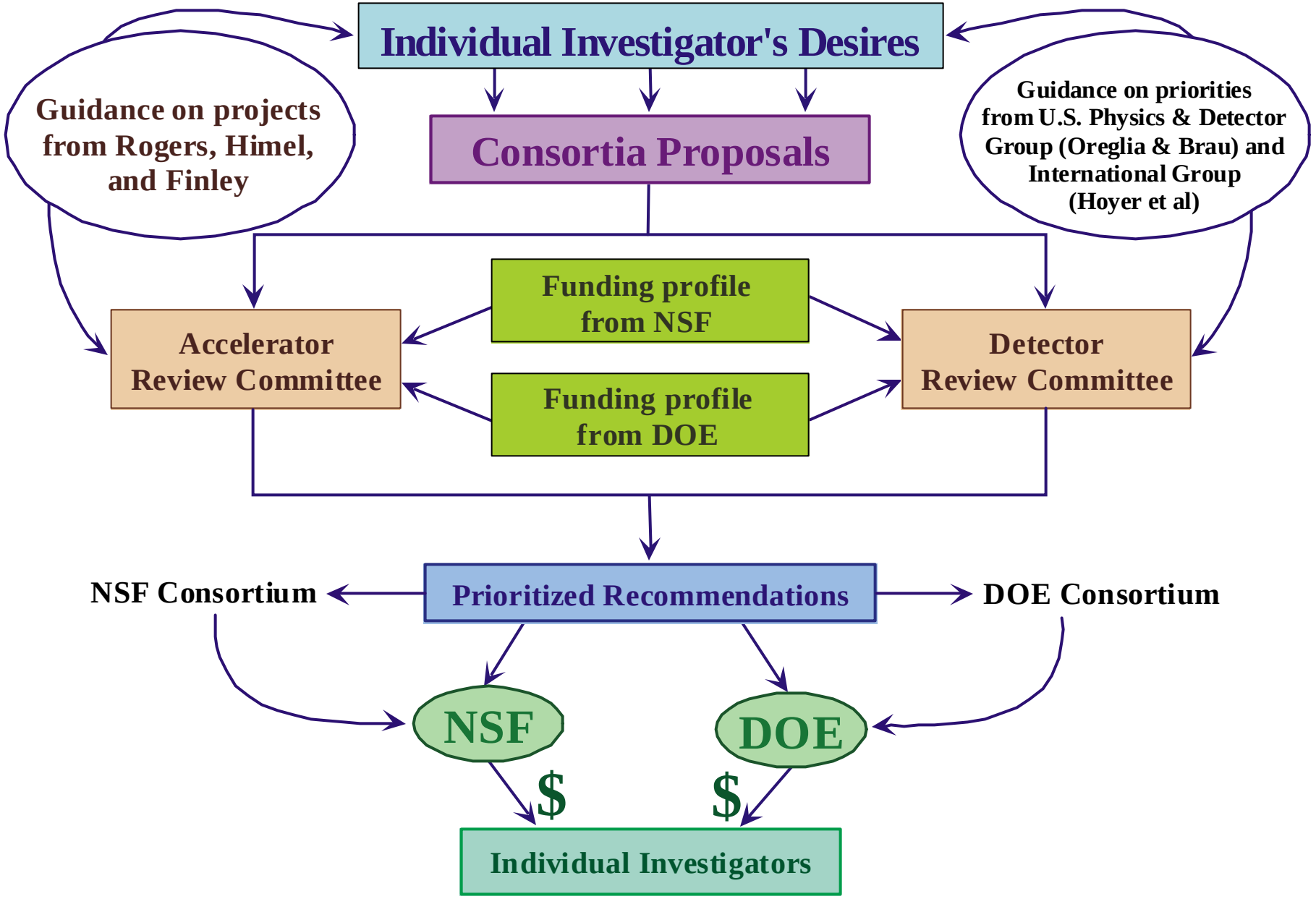
3. **Build connections with potential partners, the Americas included**

4. **Liaison with DoE, NSF international affairs offices and US Dept. of State**

USLCSG — University R&D Program

- **The U.S. Community has a much increased level of engagement in LC, which is very exciting. We anticipate an excellent suite of proposals for university-based R&D on the machine and detector**
- **DOE and NSF anticipate significant funds in FY03 for this R&D**
  - **Community has self-organized so that the proposals will come bundled in two packages (consortia) — one for each agency**
- **USLCSG has established two review committees, one for accelerator R&D, one for detector R&D. These committees will meet the week of September 9-13th to review the proposals**
  - **The consortia will use the input from the review to refine their proposals before submitting them to agencies**
  - **Review Committee outcomes will be given to the agencies as guidance**

University LC Accelerator & Detector R&D Funding



Inaugural Meeting of the US Linear Collider Steering Committee (USLCSG)

- Held at FNAL, May 30, 2002
  - Agenda

11:00 am	Introduction	Chair
	Review of the Charter.	
	Review of status of related Committees	
11:30 am	Timeline for next 3 years; Initial discussion	
	What are the major goals for the Committee and can we sketch out a crude timeline -- i.e. we need a set of milestones to guide our work	
	What groundwork do we need from the Communication and Outreach Committee?	
1:00 pm	The Role of the Sub-Committees/selecting Chairs for the Sub-Committees	
	How will the four sub-committees function (see attachment for the sub-committee names)?	
	Selecting Chairs	
	Can we formulate at this early stage initial charges/questions for some (all?) of the sub-committees?	
2:30 pm	Break	

Inaugural Meeting of the US Linear Collider Steering Committee (USLCSG) — continued

- **2:45 pm** **Coordinating Detector and Machine R&D**

- There is considerable interest by the university community to get involved in LC detector and machine R&D. FNAL, SLAC and Cornell are eager to act as facilitators and enablers for the community. We have an urgent need to establish a mechanism to help coordinate the involvement of the university community in the R&D. This mechanism requires close coordination with NSF and DOE
- (I have attached a model for how we could proceed. Please keep this model within the Committee until we have had a chance to discuss it further. While the overall approach to the accelerator and detector R&D is the same, they will likely be rather different in detail.)

- **4:15 pm** **Open for suggestions from Committee**

LCSC Meeting Santa Cruz June 29, 2002

- 7:00 –9:30 pm
- Agenda

- 1. R&D Review Process (45 minutes)
- a) Finalize and codify the process
- b) Define the timeline for the first reviews
- c) Pick review committee members
- 2. Sub-Committees (45 mins)
- a) Review and sign off on charges for Accelerator, Physics/Detectors
- and Outreach
- b) Formulate make-up and charge for International sub-committee
- 3. Review and Prepare Documents for Outreach (45 mins)
- 4. Set time for August 8 meeting (5 mins)

U.S. LC Steering Group Meeting

- August 8, 2002
- Agenda
- 08:00 to 10:00 PDT

1. Status and timetable for R+D Proposal Submission
   Tigner/Brau (15 min)
2. Status of formation of Detector Review Committee and Charge
   Brau/Oreglia (15 min)
3. Status of formation of accelerator Review Committee and Charge
   Dugan (15 min)
4. Timetable, Process and Desired Outcomes from the Review Week (Sept 9-13)
   * Balance of Machine versus detector R+D
   * Scope of R+D, including DOE stance with respect to R&D on only warm accelerators
   All (30 min)
5. News from the International Steering Committee/ICFA
   Tigner/Dorfan (30 min)

---------- BREAK FOR LUNCH ----------

U.S. LC Steering Group Meeting
(continued)

- Resume
- 12:00 to 15:00 PDT

6. Report from Communications + Outreach Committee
   - Bagger/Dawson (15 min)
7. International Affairs Subcommittee --Finalize discussion of charge
   - Tigner (20 min)
8. News from DC/HEPAP
   - Bagger/Dorfan (15 min)
9. German Council's Report- What Does it Mean?
   Tigner, Burke (20 min)
10. Next Steps For U.S. Planning – Returning to Our Task of Establishing Near term Timeline
    All (45 min)
11. Set future meeting dates
    - All (10 min)